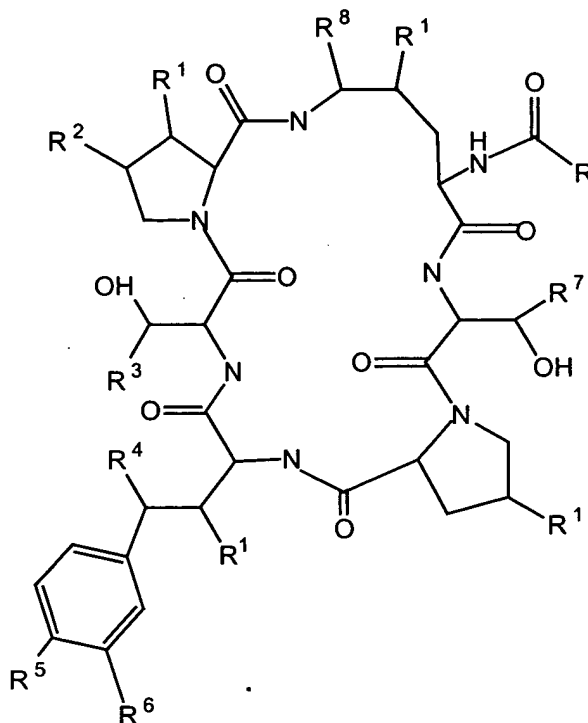


## AMENDMENTS

### In the Claims:

Please amend claims 1, 8, and 16 as follows:

1. (Amended) A compound represented by structure I



wherein

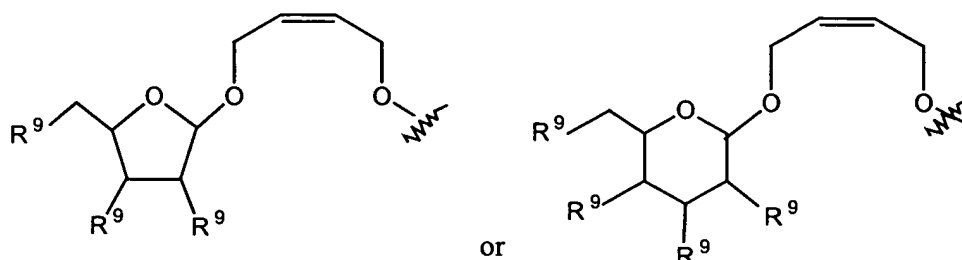
R is an alkyl group, an alkenyl group, an alkynyl group, an aryl group, or heteroaryl group;

R<sup>1</sup> is independently -H, -OH or -O-Pg; R<sup>2</sup> is -H, -CH<sub>3</sub>, -NH<sub>2</sub>, or -NH-Pg;

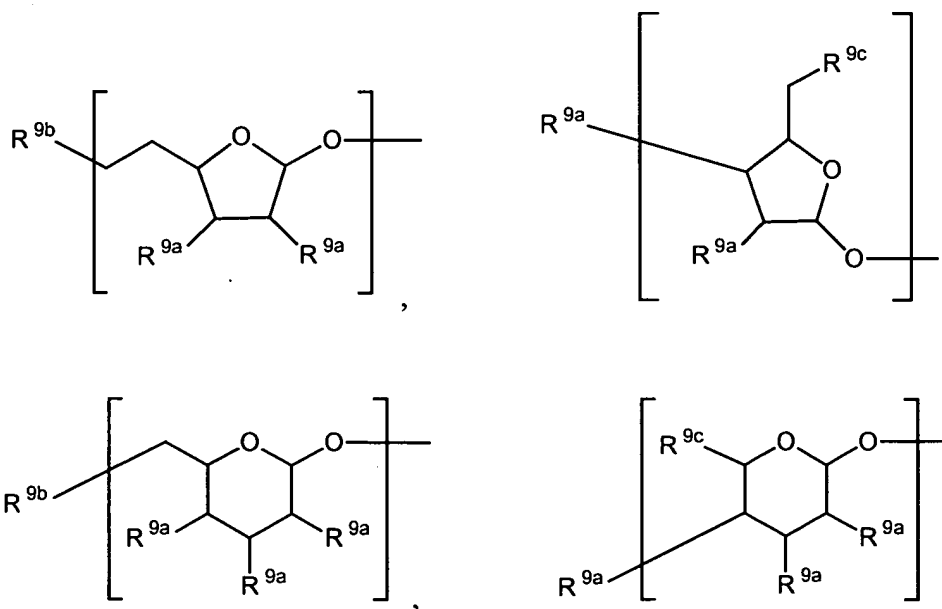
R<sup>3</sup> is -H, -CH<sub>3</sub> -CH<sub>2</sub>CONH<sub>2</sub>, -CH<sub>2</sub>CONH-Pg, -CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>, or -CH<sub>2</sub>CH<sub>2</sub>NH-Pg;

R<sup>5</sup> is -OH, -OSO<sub>3</sub>H, or -OPO<sub>2</sub>HR<sup>a</sup>, where R<sup>a</sup> is hydroxy, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, phenyl, phenoxy, *p*-halophenyl, *p*-halophenoxy, *p*-nitrophenyl, *p*-nitrophenoxy, benzyl, benzyloxy, *p*-halobenzyl, *p*-halobenzyloxy, *p*-nitrobenzyl, or *p*-nitrobenzyloxy;

$R^6$  is -H, -OH, or  $-\text{OSO}_3\text{H}$ ;  $R^7$  is -H or  $-\text{CH}_3$ ;  $R^4$  and  $R^8$  are independently, hydrogen, or hydroxy and at least one of  $R^4$  and  $R^8$  is a sugar moiety of the formula



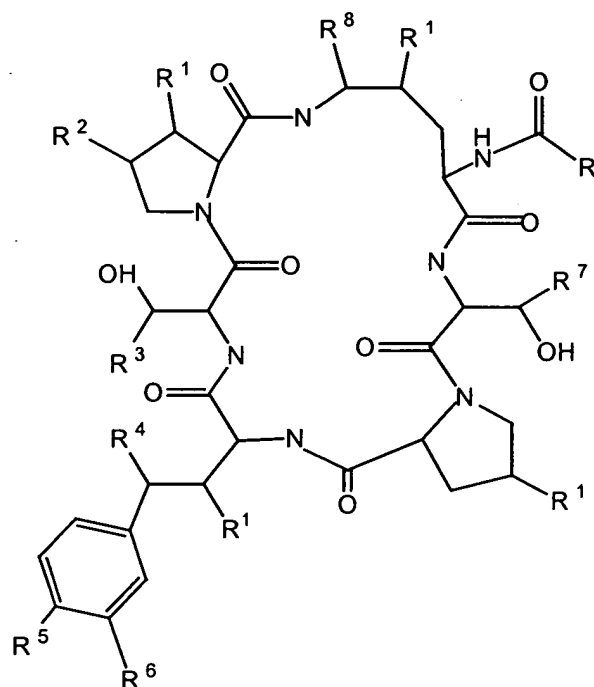
where  $R^9$  is independently -H, -OH,  $-\text{N}_3$ , -O-Pg,  $-\text{NH}_2$ , -NH-Pg,  $-\text{OPO}_2\text{R}^a$ , or a second sugar moiety consisting of one to three sugar units selected from the group consisting of



and mixtures thereof, wherein  $R^{9a}$  is -H, -OH,  $-\text{N}_3$ ,  $-\text{NH}_2$ , -O-Pg, or -NH-Pg,  $R^{9b}$  is  $-\text{OPO}_2\text{R}^a$ ,  $-\text{OSO}_3\text{H}$ , -H,  $-\text{NH}_2$ , -OH, -O-Pg, or -NH-Pg,  $R^{9c}$  is  $-\text{CH}_3$ ,  $-\text{CH}_2\text{OH}$ ,  $-\text{CH}_2\text{N}_3$ ,  $-\text{CH}_2\text{OSO}_3\text{H}$ ,  $-\text{CH}_2\text{NH-Pg}$ ,  $-\text{CH}_2\text{O-Pg}$ ,  $-\text{CO}_2\text{H}$ , or  $-\text{CO}_2\text{-Pg}$ , where  $R^a$  is as defined above,

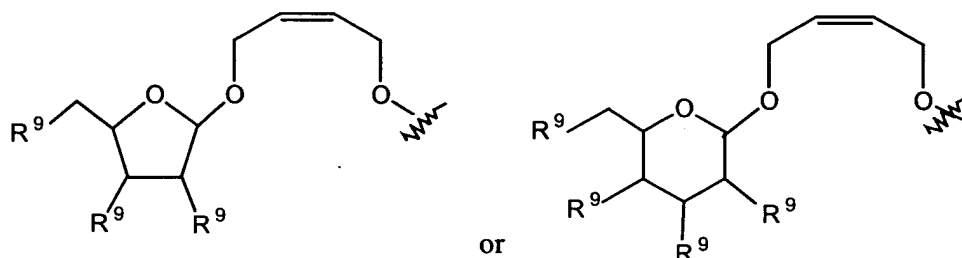
and no more than one R<sup>9</sup> is represented by said second sugar moiety; and each Pg is independently a protecting group; or a pharmaceutically acceptable salt, ester, hydrate, or solvate thereof.

8. (Amended) A method of inhibiting fungal activity comprising administering to a recipient in need of such inhibition an effective amount of a compound represented by structure I:

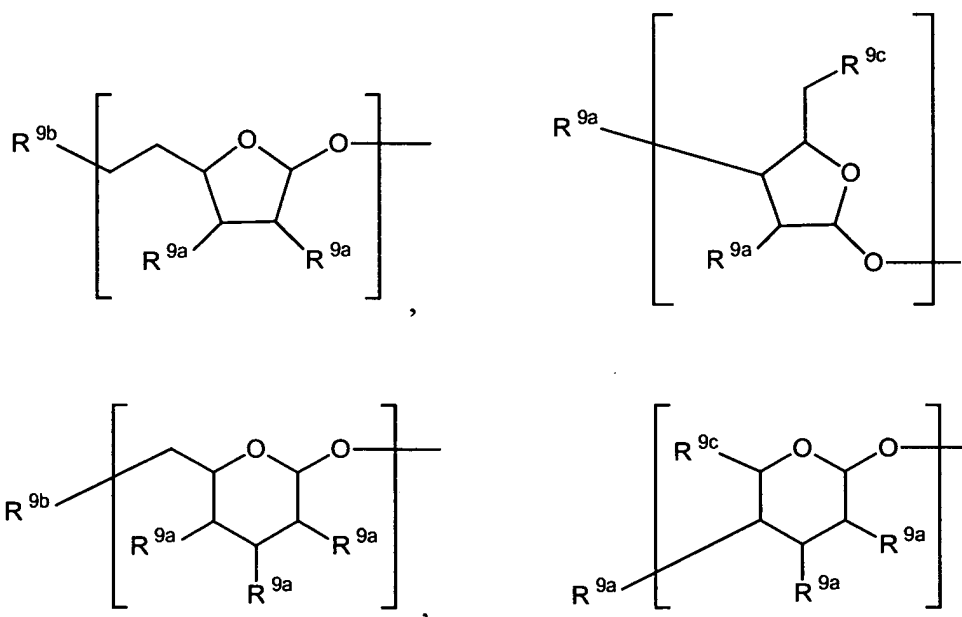


wherein R is an alkyl group, an alkenyl group, an alkynyl group, an aryl group, or heteroaryl group; R<sup>1</sup> is independently -H, -OH or -O-Pg; R<sup>2</sup> is -H, -CH<sub>3</sub>, -NH<sub>2</sub>, or -NH-Pg; R<sup>3</sup> is -H, -CH<sub>3</sub>-CH<sub>2</sub>CONH<sub>2</sub>, -CH<sub>2</sub>CONH-Pg, -CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>, or -CH<sub>2</sub>CH<sub>2</sub>NH-Pg; R<sup>5</sup> is -OH, -OSO<sub>3</sub>H, or -OPO<sub>2</sub>HR<sup>a</sup>, where R<sup>a</sup> is hydroxy, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, phenyl, phenoxy, *p*-halophenyl, *p*-halophenoxy, *p*-nitrophenyl, *p*-nitrophenoxy, benzyl,

benzyloxy, *p*-halobenzyl, *p*-halobenzyloxy, *p*-nitrobenzyl, or *p*-nitrobenzyloxy;  $R^6$  is -H, -OH, or  $-\text{OSO}_3\text{H}$ ;  $R^7$  is -H or  $-\text{CH}_3$ ;  $R^4$  and  $R^8$  are independently, hydrogen, or hydroxy and at least one of  $R^4$  and  $R^8$  is a sugar moiety of the formula



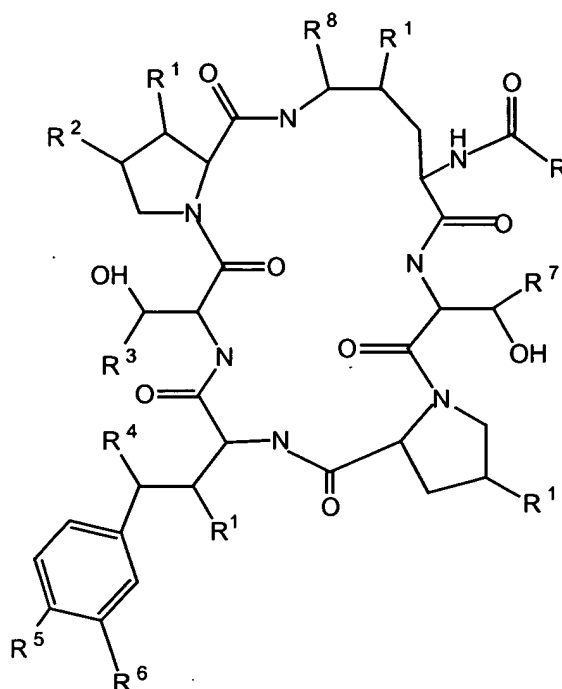
where  $R^9$  is independently -H, -OH,  $-\text{N}_3$ , -O-Pg,  $-\text{NH}_2$ , -NH-Pg,  $-\text{OPO}_2\text{R}^a$ , or a second sugar moiety consisting of one to three sugar units selected from the group consisting of



and mixtures thereof, wherein  $R^{9a}$  is -H, -OH,  $-\text{N}_3$ ,  $-\text{NH}_2$ , -O-Pg, or -NH-Pg,  $R^{9b}$  is  $-\text{OPO}_2\text{R}^a$ ,  $-\text{OSO}_3\text{H}$ , -H,  $-\text{NH}_2$ , -OH, -O-Pg, or -NH-Pg,  $R^{9c}$  is  $-\text{CH}_3$ ,  $-\text{CH}_2\text{OH}$ ,  $-\text{CH}_2\text{N}_3$ ,  $-\text{CH}_2\text{OSO}_3\text{H}$ ,  $-\text{CH}_2\text{NH-Pg}$ ,  $-\text{CH}_2\text{O-Pg}$ ,  $-\text{CO}_2\text{H}$ , or  $-\text{CO}_2\text{-Pg}$ , where  $R^a$  is as defined above,

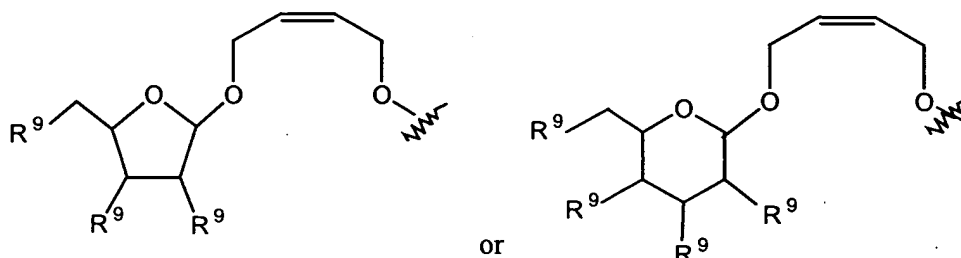
and no more than one  $R^9$  is represented by said second sugar moiety; and each Pg is independently a protecting group; or a pharmaceutically acceptable salt, ester, hydrate, or solvate thereof.

16. (Amended) A method of inhibiting parasitic activity comprising administering to a recipient in need of such inhibition an effective amount of a compound represented by structure I:

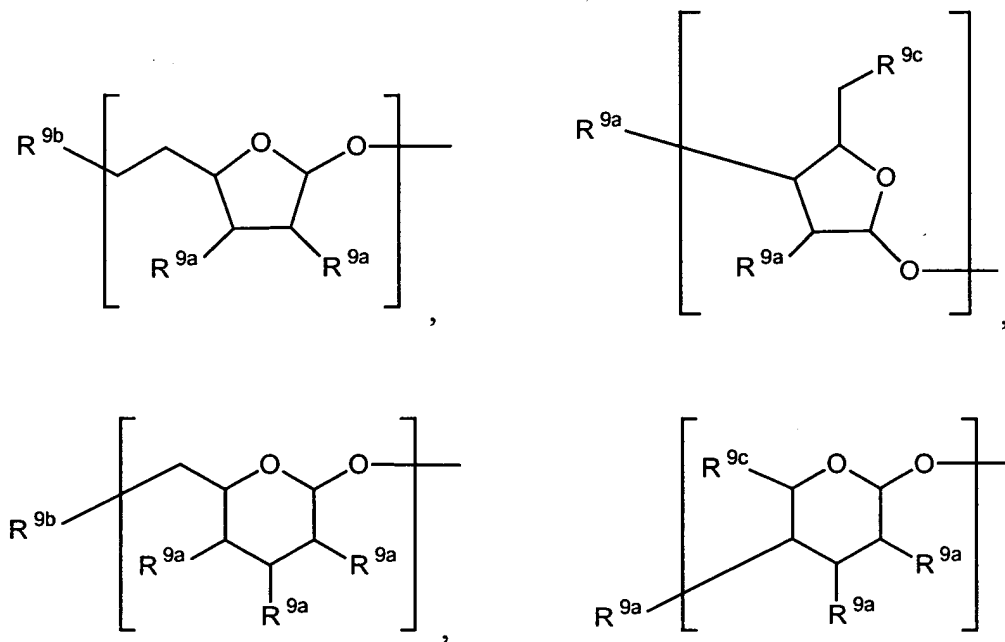


wherein R is an alkyl group, an alkenyl group, an alkynyl group, an aryl group, or heteroaryl group;  $R^1$  is independently -H, -OH or -O-Pg;  $R^2$  is -H, -CH<sub>3</sub>, -NH<sub>2</sub>, or -NH-Pg;  $R^3$  is -H, -CH<sub>3</sub> -CH<sub>2</sub>CONH<sub>2</sub>, -CH<sub>2</sub>CONH-Pg, -CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>, or -CH<sub>2</sub>CH<sub>2</sub>NH-Pg;  $R^5$  is -OH, -OSO<sub>3</sub>H, or -OPO<sub>2</sub>HR<sup>a</sup>, where R<sup>a</sup> is hydroxy, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, phenyl, phenoxy, *p*-halophenyl, *p*-halophenoxy, *p*-nitrophenyl, *p*-nitrophenoxy, benzyl,

benzyloxy, *p*-halobenzyl, *p*-halobenzyloxy, *p*-nitrobenzyl, or *p*-nitrobenzyloxy;  $R^6$  is -H, -OH, or  $-\text{OSO}_3\text{H}$ ;  $R^7$  is -H or  $-\text{CH}_3$ ;  $R^4$  and  $R^8$  are independently, hydrogen, or hydroxy and at least one of  $R^4$  and  $R^8$  is a sugar moiety of the formula



where  $R^9$  is independently -H, -OH,  $-\text{N}_3$ , -O-Pg,  $-\text{NH}_2$ , -NH-Pg,  $-\text{OPO}_2\text{R}^a$ , or a second sugar moiety consisting of one to three sugar units selected from the group consisting of



and mixtures thereof, wherein  $R^{9a}$  is -H, -OH,  $-\text{N}_3$ ,  $-\text{NH}_2$ , -O-Pg, or -NH-Pg,  $R^{9b}$  is  $-\text{OPO}_2\text{R}^a$ ,  $-\text{OSO}_3\text{H}$ , -H,  $-\text{NH}_2$ , -OH, -O-Pg, or -NH-Pg,  $R^{9c}$  is  $-\text{CH}_3$ ,  $-\text{CH}_2\text{OH}$ ,  $-\text{CH}_2\text{N}_3$ ,

-CH<sub>2</sub>OSO<sub>3</sub>H, -CH<sub>2</sub>NH-Pg, -CH<sub>2</sub>O-Pg, -CO<sub>2</sub>H, or -CO<sub>2</sub>-Pg, where R<sup>a</sup> is as defined above, and no more than one R<sup>9</sup> is represented by said second sugar moiety; and each Pg is independently a protecting group; or a pharmaceutically acceptable salt, ester, hydrate, or solvate thereof.

Please add new claims 24-25:

24. (New) The compound of claim 1, wherein the Pg of -O-Pg is a hydroxy protecting group, the Pg of -NH-Pg is an amino protecting group, the Pg of -CH<sub>2</sub>CONH-Pg is an amino protecting group and the Pg of -CO<sub>2</sub>-Pg is a carboxy protecting group.

24. (New) The method of claim 8 or 16, wherein the Pg of -O-Pg is a hydroxy protecting group, the Pg of -NH-Pg is an amino protecting group, the Pg of -CH<sub>2</sub>CONH-Pg is an amino protecting group and the Pg of -CO<sub>2</sub>-Pg is a carboxy protecting group.

**In the Abstract:**

Please add page 44 with the following Abstract, on a separate page following page 43.

--ABSTRACT

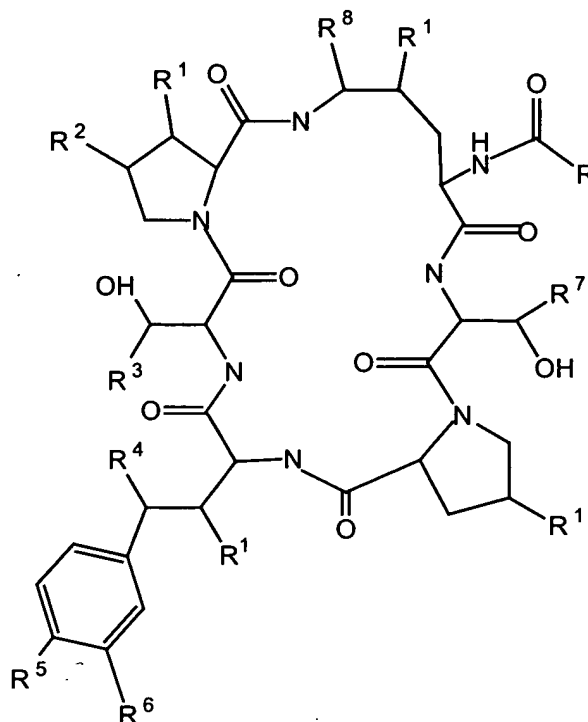
A compound represented by structure (I) is described where R<sup>4</sup> and/or R<sup>8</sup> represent a sugar moiety. The compounds are shown to be useful as an antifungal and antiparasitic agent or as an intermediate to such an agent. Methods of treatment and pharmaceutical formulations containing compounds represented by structure (I) are also described.--

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**In the Claims:**

Claims 1, 8, and 16 have been amended as follows:

1. (Amended) A compound represented by structure I



wherein

R is an alkyl group, an alkenyl group, an alkynyl group, an aryl group, or heteroaryl group;

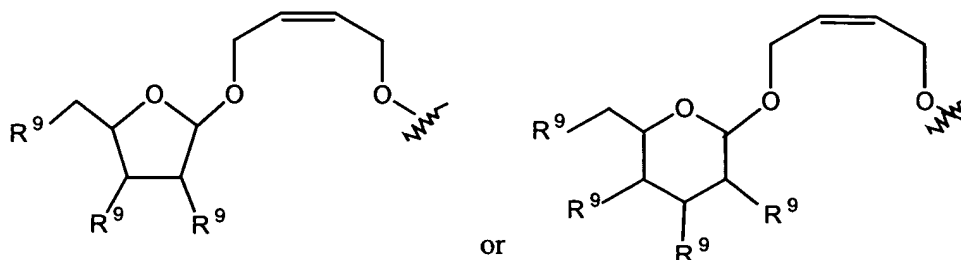
R<sup>1</sup> is independently -H, -OH or -O-Pg; R<sup>2</sup> is -H, -CH<sub>3</sub>, -NH<sub>2</sub>, or -NH-Pg;

R<sup>3</sup> is -H, -CH<sub>3</sub>, -CH<sub>2</sub>CONH<sub>2</sub>, -CH<sub>2</sub>CONH-Pg, -CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>, or -CH<sub>2</sub>CH<sub>2</sub>NH-Pg;

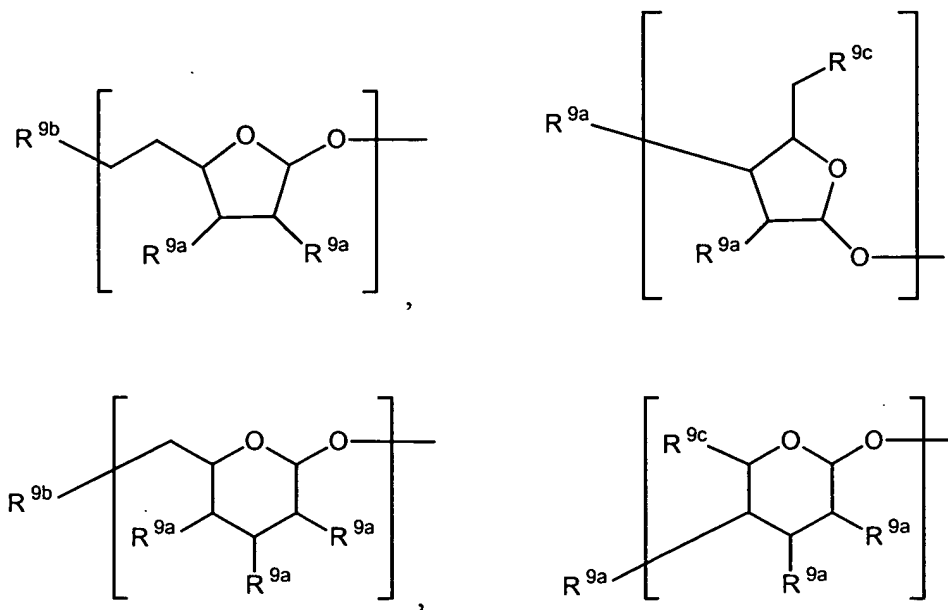
R<sup>5</sup> is -OH, -OSO<sub>3</sub>H, or -OPO<sub>2</sub>HR<sup>a</sup>, where R<sup>a</sup> is hydroxy, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, phenyl, phenoxy, *p*-halophenyl, *p*-halophenoxy, *p*-nitrophenyl, *p*-nitrophenoxy, benzyl, benzyloxy, *p*-halobenzyl, *p*-halobenzyloxy, *p*-nitrobenzyl, or *p*-nitrobenzyloxy;



$R^6$  is -H, -OH, or  $-\text{OSO}_3\text{H}$ ;  $R^7$  is -H or  $-\text{CH}_3$ ;  $R^4$  and  $R^8$  are independently, hydrogen, or hydroxy and at least one of  $R^4$  and  $R^8$  is a sugar moiety of the formula



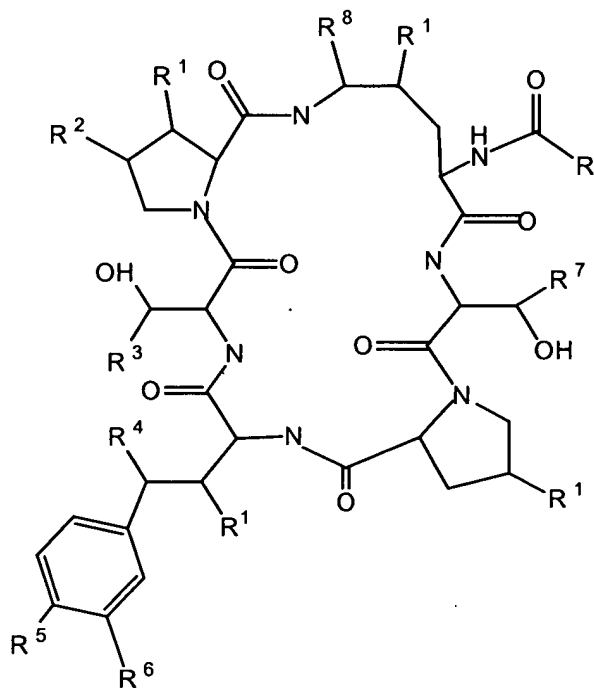
where  $R^9$  is independently -H, -OH,  $-\text{N}_3$ , -O-Pg,  $-\text{NH}_2$ , -NH-Pg,  $-\text{OPO}_2\text{R}^a$ , or a second sugar moiety ~~comprising~~ consisting of one to three sugar units selected from the group consisting of



and mixtures thereof, wherein  $R^{9a}$  is -H, -OH,  $-\text{N}_3$ ,  $-\text{NH}_2$ , -O-Pg, or -NH-Pg,  $R^{9b}$  is  $-\text{OPO}_2\text{R}^a$ ,  $-\text{OSO}_3\text{H}$ , -H,  $-\text{NH}_2$ , -OH, -O-Pg, or -NH-Pg,  $R^{9c}$  is  $-\text{CH}_3$ ,  $-\text{CH}_2\text{OH}$ ,  $-\text{CH}_2\text{N}_3$ ,

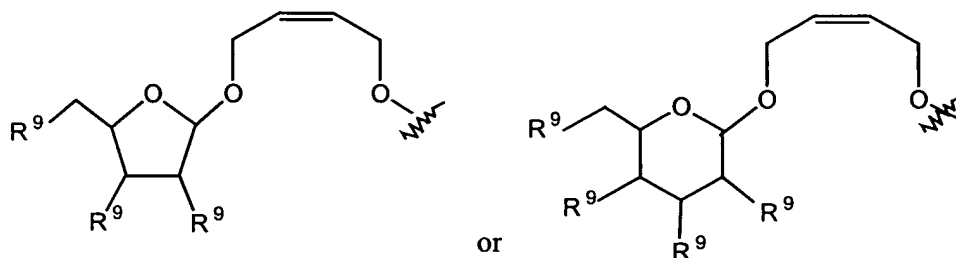
-CH<sub>2</sub>OSO<sub>3</sub>H, -CH<sub>2</sub>NH-Pg, -CH<sub>2</sub>O-Pg, -CO<sub>2</sub>H, or -CO<sub>2</sub>-Pg, where R<sup>a</sup> is as defined above, and no more than one R<sup>9</sup> is represented by said second sugar moiety; and each Pg is independently a protecting group (i.e., -O-Pg, is a hydroxy protecting group, -NH-Pg is an amino protecting group, -CH<sub>2</sub>CONH-Pg is an amino protecting group and -CO<sub>2</sub>-Pg is a carboxy protecting group); and pharmaceutically acceptable salts, esters, hydrates or solvates thereof for a pharmaceutically acceptable salt, ester, hydrate, or solvate thereof.

8. (Amended) A method of inhibiting fungal activity comprising administering to a recipient in need of such inhibition an effective amount of a compound represented by structure I:

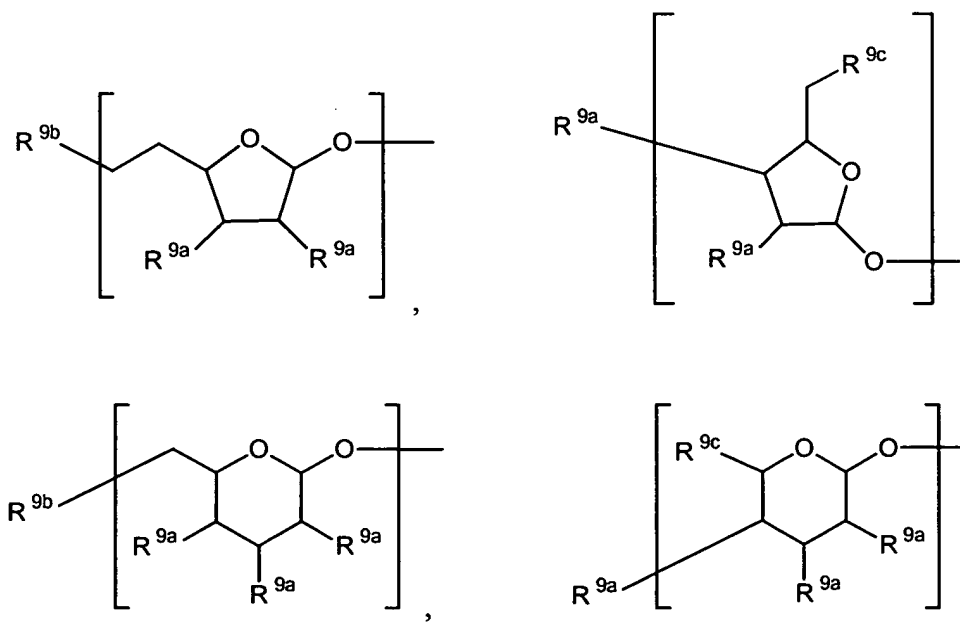


wherein R is an alkyl group, an alkenyl group, an alkynyl group, an aryl group, or heteroaryl group; R<sup>1</sup> is independently -H, -OH or -O-Pg; R<sup>2</sup> is -H, -CH<sub>3</sub>, -NH<sub>2</sub>, or -NH-

Pg; R<sup>3</sup> is -H, -CH<sub>3</sub> -CH<sub>2</sub>CONH<sub>2</sub>, -CH<sub>2</sub>CONH-Pg, -CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>, or -CH<sub>2</sub>CH<sub>2</sub>NH-Pg; R<sup>5</sup> is -OH, -OSO<sub>3</sub>H, or -OPO<sub>2</sub>HR<sup>a</sup>, where R<sup>a</sup> is hydroxy, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, phenyl, phenoxy, *p*-halophenyl, *p*-halophenoxy, *p*-nitrophenyl, *p*-nitrophenoxy, benzyl, benzyloxy, *p*-halobenzyl, *p*-halobenzyloxy, *p*-nitrobenzyl, or *p*-nitrobenzyloxy; R<sup>6</sup> is -H, -OH, or -OSO<sub>3</sub>H; R<sup>7</sup> is -H or -CH<sub>3</sub>; R<sup>4</sup> and R<sup>8</sup> are independently, hydrogen, or hydroxy and at least one of R<sup>4</sup> and R<sup>8</sup> is a sugar moiety of the formula

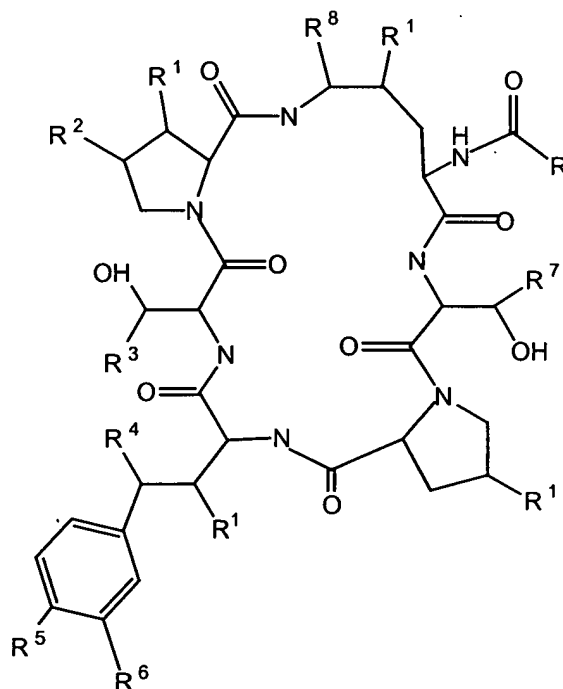


where R<sup>9</sup> is independently -H, -OH, -N<sub>3</sub>, -O-Pg, -NH<sub>2</sub>, -NH-Pg, -OPO<sub>2</sub>R<sup>a</sup>, or a second sugar moiety ~~comprising~~ consisting of one to three sugar units selected from the group consisting of

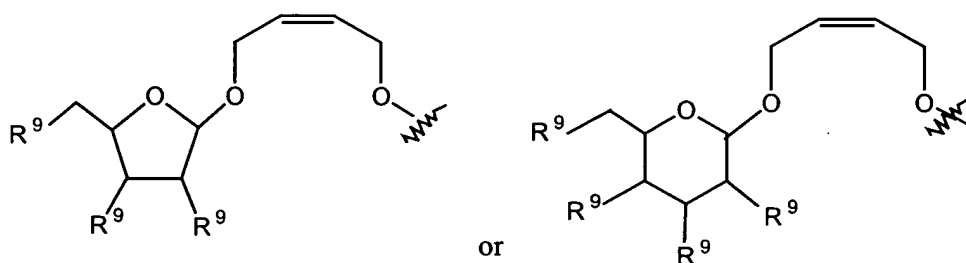


and mixtures thereof, wherein  $R^{9a}$  is -H, -OH, -N<sub>3</sub>, -NH<sub>2</sub>, -O-Pg, or -NH-Pg,  $R^{9b}$  is -OPO<sub>2</sub>R<sup>a</sup>, -OSO<sub>3</sub>H, -H, -NH<sub>2</sub>, -OH, -O-Pg, or -NH-Pg,  $R^{9c}$  is -CH<sub>3</sub>, -CH<sub>2</sub>OH, -CH<sub>2</sub>N<sub>3</sub>, -CH<sub>2</sub>OSO<sub>3</sub>H, -CH<sub>2</sub>NH-Pg, -CH<sub>2</sub>O-Pg, -CO<sub>2</sub>H, or -CO<sub>2</sub>-Pg, where R<sup>a</sup> is as defined above, and no more than one R<sup>9</sup> is represented by said second sugar moiety; and each Pg is independently a protecting group (i.e., O-Pg, is a hydroxy protecting group, NH-Pg is an amino protecting group, CH<sub>2</sub>CONH-Pg is an amino protecting group and CO<sub>2</sub>-Pg is a carboxy protecting group); and pharmaceutically acceptable salts, esters, hydrates or solvates thereof for a pharmaceutically acceptable salt, ester, hydrate, or solvate thereof.

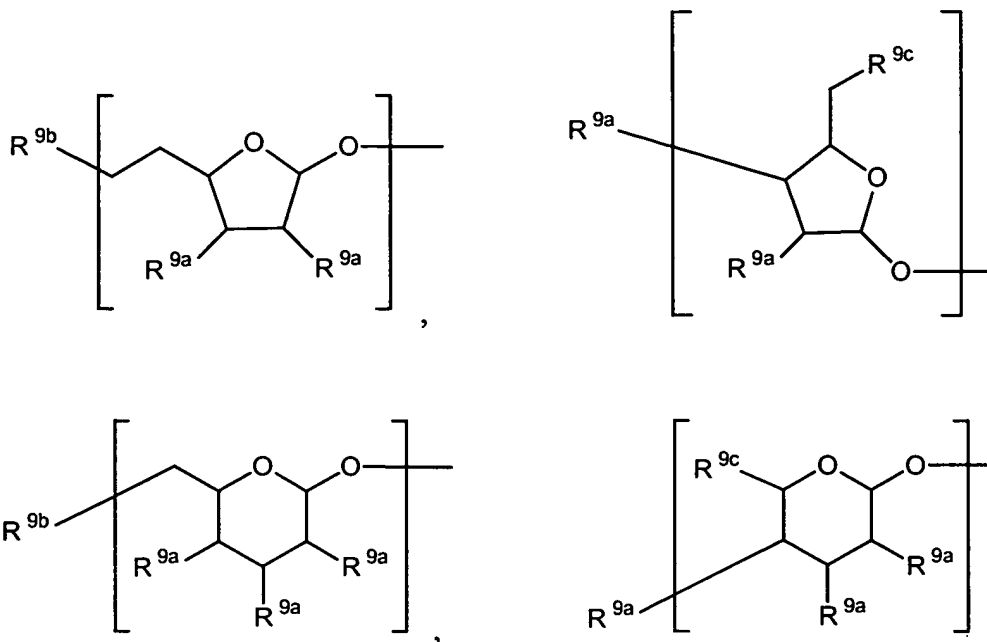
16. (Amended) A method of inhibiting parasitic activity comprising administering to a recipient in need of such inhibition an effective amount of a compound represented by structure I:



wherein R is an alkyl group, an alkenyl group, an alkynyl group, an aryl group, or heteroaryl group; R<sup>1</sup> is independently -H, -OH or -O-Pg; R<sup>2</sup> is -H, -CH<sub>3</sub>, -NH<sub>2</sub>, or -NH-Pg; R<sup>3</sup> is -H, -CH<sub>3</sub> -CH<sub>2</sub>CONH<sub>2</sub>, -CH<sub>2</sub>CONH-Pg, -CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>, or -CH<sub>2</sub>CH<sub>2</sub>NH-Pg; R<sup>5</sup> is -OH, -OSO<sub>3</sub>H, or -OPO<sub>2</sub>HR<sup>a</sup>, where R<sup>a</sup> is hydroxy, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, phenyl, phenoxy, *p*-halophenyl, *p*-halophenoxy, *p*-nitrophenyl, *p*-nitrophenoxy, benzyl, benzyloxy, *p*-halobenzyl, *p*-halobenzyloxy, *p*-nitrobenzyl, or *p*-nitrobenzyloxy; R<sup>6</sup> is -H, -OH, or -OSO<sub>3</sub>H; R<sup>7</sup> is -H or -CH<sub>3</sub>; R<sup>4</sup> and R<sup>8</sup> are independently, hydrogen, or hydroxy and at least one of R<sup>4</sup> and R<sup>8</sup> is a sugar moiety of the formula



where R<sup>9</sup> is independently -H, -OH, -N<sub>3</sub>, -O-Pg, -NH<sub>2</sub>, -NH-Pg, -OPO<sub>2</sub>R<sup>a</sup>, or a second sugar moiety ~~comprising~~ consisting of one to three sugar units selected from the group consisting of



and mixtures thereof, wherein  $R^{9a}$  is -H, -OH, -N<sub>3</sub>, -NH<sub>2</sub>, -O-Pg, or -NH-Pg,  $R^{9b}$  is -OPO<sub>2</sub>R<sup>a</sup>, -OSO<sub>3</sub>H, -H, -NH<sub>2</sub>, -OH, -O-Pg, or -NH-Pg,  $R^{9c}$  is -CH<sub>3</sub>, -CH<sub>2</sub>OH, -CH<sub>2</sub>N<sub>3</sub>, -CH<sub>2</sub>OSO<sub>3</sub>H, -CH<sub>2</sub>NH-Pg, -CH<sub>2</sub>O-Pg, -CO<sub>2</sub>H, or -CO<sub>2</sub>-Pg, where R<sup>a</sup> is as defined above, and no more than one R<sup>9</sup> is represented by said second sugar moiety; and each Pg is independently a protecting group (i.e., O-Pg, is a hydroxy protecting group, NH-Pg is an amino protecting group, CH<sub>2</sub>CONH-Pg is an amino protecting group and CO<sub>2</sub>-Pg is a carboxy protecting group); and pharmaceutically acceptable salts, esters, hydrates or solvates thereof for a pharmaceutically acceptable salt, ester, hydrate, or solvate thereof.

Claims 24-25 are new.

#### **In the Abstract:**

Page 44 with the Abstract has been added.